

PATENTS

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File 350:Derwent WPIX 1963-2010/UD=201041

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File 347:JAPIO Dec 1976-2010/Feb(Updated 100525)

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? DS

Set	Items	Description
S1	2110585	GLASS OR CRYSTAL? ? OR CERAMIC? ? OR HYDROXYAPATITE? ? OR HYDROXYLAPATITE? OR BIOCERAMIC? ? OR DURAPATITE? ?
S2	317826	QUARTZ? OR DIAMOND? OR SAPPHIRE? ? OR TOPAZ? OR AMETHYST? OR ZIRCON? OR AGATE? ? OR GRANITE? ? OR SPINEL? ? OR FIANITE? ? OR TANZANITE? ? OR TOURMALINE? ?
S3	547346	S1(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S4	7404	S2(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S5	553081	S3 OR S4
		LIMITALL S5
S6	542	BONE OR BONES
S7	1533	TEETH OR TOOTH
S8	49	HARD()TISSUE? ? OR CARTILAG?
S9	2201	SKELETON? OR VERTEBRA? OR FEMUR? ? OR COCCY??? OR ULNA? ? OR HUMER?? OR TIBIA? ? OR FIBULA? ? OR SACRUM OR SACRA OR SPINE OR SPINES OR BACKBONE? ?
S10	4153	S6:S9
S11	44840	S5(7N)(POUR? OR BRUSH? OR PAINT? OR LAMINAT? OR COAT? OR FILL OR FILLS OR FILLED OR FILLING OR SPRAY? OR APPLY? OR APPLIE? ? OR SPRAYCOAT?)
S12	40	S11(7N)S10
S13	393	FLAMESPRAY? OR PLASMASPRAY? OR THERMASPRAY? OR (FLAME OR PLASMA OR THERMAL)(2W)SPRAY?
S14	1	S10(7N)S13
S15	1	S14 NOT S12
S16	726	S10/TI
S17	76	(S3 OR S4)(7N)S13
S18	1	S17 AND S10
S19	0	S18 NOT (S14 OR S12)
S20	304	IC=A61C?
S21	5	S13 AND S20
S22	161	S13 AND S11
S23	2	S21 NOT (S18 OR S14 OR S12)
S24	157	S22 NOT (S21 OR S18 OR S14 OR S12)
S25	52	S20 AND S11
S26	45	S25 NOT (S22 OR S21 OR S18 OR S14 OR S12)

? LOG OFF

12/25,K/4 (Item 4 from file: 350)
DIALOG(R)File 350: Derwent WPIX
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0019139330

WPI Acc no: 2009-H01130/200940

Partially strengthening wear resistance of mechanical part of bionic ceramic skeleton involves arranging bionic ceramic skeleton on wear-resistant mechanical part, which is fixed at bottom of casting mold

Patent Assignee: UNIV JILIN (UYJI)

Inventor: GAO F; ZHAO Y; ZHOU H

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
CN 101391297	A	20090325	200940	B

Local Applications (no., kind, date): CN 200810051363 A 20081031

Priority Applications (no., kind, date): CN 200810051363 A 20081031

Alerting Abstract CN A

NOVELTY - Partially strengthening wear resistance of mechanical part involves arranging bionic ceramic skeleton on the wear-resistant mechanical part, which is fixed at a bottom of casting mold. A molten metal is casted into the casting mold at 50-100(deg) C under the action of gravity or pressure. The casting temperature is increased by 100, when the diameter of the ceramic skeleton is between 6-10 mm. A casting pressure, which is 3-5 atmospheric pressures, is used, when the diameter of the ceramic skeleton is less than 6 mm.

DESCRIPTION - Partially strengthening wear resistance of mechanical part involves arranging bionic ceramic skeleton on the wear-resistant mechanical part, which is fixed at a bottom of a casting mold. A molten metal is casted into the casting mold at 50-100(deg) C under the action of gravity or pressure. The casting temperature is increased by 100, when the diameter of the ceramic skeleton is between 6-10 mm. A casting pressure, which is 3-5 atmospheric pressures, is used, when the diameter of the ceramic skeleton is less than 6 mm. The molten metal is entered into the ceramic skeleton to coat it. A compound material area of ceramic skeleton is formed.

USE - Method for partially strengthening wear resistance of mechanical part of bionic ceramic skeleton (claimed).

ADVANTAGE - The wearing resistance partial strengthening of mechanical part of bionic ceramic skeleton method is simple, reliable, cost-effective, improves production efficiency by 10 percent, and improves wear resistance of mechanical part by 1-3 times.

Original Publication Data by Authority Argentina **Publication No. ...Original**

Abstracts:casting mould through gravity or pressure; under the action of gravity or

pressure, the metal **liquid** is entered into the **ceramic skeleton** and coats it; after a step of solidifying, the compound material area of ceramic skeleton in a... **Claims:** casting mould through gravity or pressure; under the action of gravity or pressure, the metal **liquid** is entered into the **ceramic skeleton** and coats it; after a step of solidifying, the compound material area of ceramic skeleton in a...

12/25,K/6 (Item 6 from file: 350)
DIALOG(R)File 350: Derwent WPIX
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0018932770 *Drawing available*
WPI Acc no: 2009-H26114/200928

Customized porosity bone substitute molding method, involves molding porosity bone substitute, coating porosity bone substitute with ceramic slurry, heating ceramic coated bone substitute, and sintering remaining ceramics

Patent Assignee: CORENTEC CO LTD (CORE-N)

Inventor: BYUNG SOO K; JUNG SUNG K; KIM Y S; LEE U J; SUN D H; TAE JIN S

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
KR 2009003916	A	20090112	200928	B
KR 884405	B1	20090218	200928	E

Local Applications (no., kind, date): KR 200767689 A 20070705; KR 200767689 A 20070705

Priority Applications (no., kind, date): KR 200767689 A 20070705

Alerting Abstract KR A

NOVELTY - The method involves molding a porosity bone substitute in a rapid prototyping machine. The porosity **bone** substitute is **coated** with ceramic slurry, and the **ceramic coated bone** substitute is **heated**. Remaining **ceramics** are sintered, and **hydroxyapatite** is **coated** on the **ceramic coated bone** substitute. Outer shape of the **bone** substitute is based on image data that form a film of a brain damage part of a patient, and the porous structure of the bone substitute is designed. Fluorapatite is coated on the ceramics bone substitute to suppress interfacial reaction.

DESCRIPTION - An **INDEPENDENT CLAIM** is also included for a customized porosity bone substitute.

USE - Customized porosity bone substitute (claimed) molding method.

ADVANTAGE - The method enables coating hydroxyapatite on the ceramic coated bone substitute, thus promoting growth of osteoblast. The ceramics bone substitute is coated with fluorapatite, thus raising coherence between the hydroxyapatite and the ceramics bone substitute.

DESCRIPTION OF DRAWINGS - The drawing shows a flowchart illustrating steps

involved in a customized porosity bone substitute molding method.'(Drawing includes non-English language text)'

12/25,K/7 (Item 7 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0018878575

WPI Acc no: 2009-G25074/200925

^Composition, useful for whitening tooth, comprises whitening agent, hydrophilic phase comprising water, hydrophobic phase comprising oil, surfactant e.g. anionic surfactants, and water-soluble co-solvent e.g. ethanol

Patent Assignee: NARASIMHAN S (NARA-I); SHARMA D (SHAR-I); MCNEIL-PCC INC (MCNI)

Inventor: NARASIMHAN S; SHARMA D

Patent Family (5 patents, 42 countries)

Patent Number	Kind	Date	Update	Type
US 20090081136	A1	20090326	200925	B
EP 2047889	A1	20090415	200926	E
CA 2639742	A1	20090324	200927	E
JP 2009102308	A	20090514	200933	E
AU 2008224340	A1	20090409	200952	E

Local Applications (no., kind, date): US 2007859953 A 20070924; EP 2008253098 A 20080923; CA 2639742 A 20080923; JP 2008242726 A 20080922; AU 2008224340 A 20080924

Priority Applications (no., kind, date): US 2007859953 A 20070924

Alerting Abstract US A1

NOVELTY - Tooth whitening composition (I) comprises: a whitening agent to whiten teeth; a hydrophilic phase comprising water; a hydrophobic phase comprising an oil; a surfactant comprising anionic, nonionic, amphoteric and zwitterionic surfactants; and a water-soluble co-solvent having a Hildebrand solubility parameter above $12 \text{ (cal/cm}^3\text{)}^{1/2}$, where (I) is in a form of a liquid crystal and a microemulsion.

DESCRIPTION - An INDEPENDENT CLAIM is included for a method for whitening teeth comprising applying (I) to the teeth for a period of time and under conditions to whiten the teeth.

USE - (I) is useful for whitening tooth.

ADVANTAGE - (I) is chemically and physically stable. (I) provides positive consumer experience. (I) is substantially transparent or translucent.

Original Publication Data by Authority Argentina **Publication No. ...Original**

Abstracts:Hildebrand solubility parameter above 12 (cal/cm³)^{1/2}, as well as methods for whitening **teeth** including **applying the liquid crystal** or microemulsion composition to the **teeth** for a period of time and under conditions effective to whiten the teeth... ..

Hildebrand solubility parameter above 12 (cal/cm³)^{1/2}, as well as methods for whitening **teeth** including **applying the liquid crystal** or microemulsion composition to the **teeth** for a period of time and under conditions effective to whiten the teeth.

12/25,K/10 (Item 10 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0017228180 *Drawing available*

WPI Acc no: 2008-A48610/200803

Related WPI Acc No: 2008-J18792

XRFX Acc No: N2008-037390

Implant for contacting with a bone during e.g. prosthetic surgery, comprises metal structure having a surface with a ceramic coating containing hydroxyapatite and silver ions that gradually leach out in body fluids after implantation

Patent Assignee: ACCENTUS PLC (ACCE-N)

Inventor: LEWIS D R; PICKFORD M E L; PRENTICE T C; TURNER A D; LEWIS D; PICKFORD M; PRENTICE T; TURNER A

Patent Family (10 patents, 120 countries)

Patent Number	Kind	Date	Update	Type
WO 2007144667	A2	20071221	200803	B
WO 2007144667	A3	20080731	200851	E
EP 2026852	A2	20090225	200918	E
KR 2009017693	A	20090218	200919	E
AU 2007258948	A1	20071221	200943	E
CN 101466414	A	20090624	200945	E
IN 200806807	P4	20090327	200951	E
US 20090198344	A1	20090806	200952	E
CA 2654235	A1	20071221	200955	E
JP 2009539532	W	20091119	200976	E

Local Applications (no., kind, date): WO 2007GB50327 A 20070611; EP 2007733748 A 20070611; WO 2007GB50327 A 20070611; WO 2007GB50327 A 20070611; KR 2009700284 A 20090107; AU 2007258948 A 20070611; CN 200780021898 A 20070611; WO 2007GB50327 A 20070611; WO 2007GB50327 A 20070611; IN 2008CN6807 A 20081211; WO 2007GB50327 A 20070611; US 2008304441 A 20081211; CA 2654235 A 20070611; WO 2007GB50327 A 20070611; CA 2654235 A

20081203; WO 2007GB50327 A 20070611; JP 2009514915 A 20070611
Priority Applications (no., kind, date): GB 200611437 A 20060612; GB 2007713 A
20070115

Alerting Abstract WO A2

NOVELTY - An implant useful for contacting with a bone, comprises a metal structure (10) having at least a part (15) of its surface provided with a ceramic coating containing hydroxyapatite, where the ceramic coating contains silver ions that gradually leach out into body fluids after implantation. The part of the implant which is to be in contact with the bone, preferably has a rough surface, and the rough surface is provided with the ceramic coating.

DESCRIPTION - An implant useful for contacting with a bone, comprises a metal structure (10) having at least a part (15) of its surface provided with a ceramic coating containing hydroxyapatite, where the ceramic coating contains silver ions that gradually leach out into body fluids after implantation. The part of the implant which is to be in contact with the bone, preferably has a rough surface, and the rough surface is provided with the ceramic coating. The metal of metal structure is titanium. The surface of metal structure is preferably a hard oxide surface in which small pits of ion absorbent material are present, where the ion absorbent material includes ions of biocidal material that are incorporated by ion exchange. An **INDEPENDENT CLAIM** is included for a method of making the implant involving depositing a ceramic coating containing hydroxyapatite, on at least a part of the surface of the metal structure, by thermal spraying using a plasma spray system; and incorporating silver ions into the deposited ceramic coating, preferably via ion exchange, by immersing the coated implant in a solution containing silver ions, where the silver ions gradually leach out into body fluids after implantation.

USE - As an implant for contacting with a bone (claimed); useful in surgical procedure; useful for replacing a cancerous bone during prosthetic surgery; and useful as a proximal tibia prosthesis.

ADVANTAGE - The hydroxyapatite coating improves bone ingrowth on the implant. Silver is a biocidal material, which is gradually leached into body fluids after implantation. Thus, the presence of silver in the hydroxyapatite coating on the implant, suppresses collagenous in-growth, without inhibiting bone in-growth.

DESCRIPTION OF DRAWINGS - The figure shows a side view of an implant useful as a proximal tibia prosthesis.

10 metal structure of implant

12 upper part of metal structure

13 upper end of metal structure

14 lower part of metal structure

15 surface part of metal structure having a ceramic coating containing hydroxyapatite and silver ions.

12/25.K/11 (Item 11 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0016023399

WPI Acc no: 2006-555029/200657

XRAM Acc no: C2006-173202

Liquid crystal phase teeth whitening agent having proper ability whitening teeth by being coated at teeth

Patent Assignee: LG HOUSEHOLD & HEALTHCARE LTD (GLDS)

Inventor: CHANG S Y; KIM J H; KIM J Y; SONG J Y; YUN S Y

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
KR 2005046050	A	20050518	200657	B
KR 782709	B1	20071205	200843	E

Local Applications (no., kind, date): KR 200380028 A 20031113; KR 200380028 A 20031113

Priority Applications (no., kind, date): KR 200380028 A 20031113

Alerting Abstract KR A

NOVELTY - A liquid crystal phase teeth whitening agent having proper ability whitening the teeth by being coated at the teeth, being capable of coating easily preparation at wanted portion in oral cavity, adhering and fixing the preparation to the teeth and emitting during a long time is provided.

DESCRIPTION - The **liquid crystal phase teeth** whitening agent is **coated** at the **teeth** and whitens the **teeth**. The liquid crystal phase teeth whitening agent contains gricерol mono oleate, polymer, peroxide and solvent. The polymer is polyvinyl alcohol, poloxamer, polyvinylpyrrolidone, polyvinyl pyrrolidone/vinyl acetate copolymer, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, hydroxyethyl cellulose, hydroxypropylethyl cellulose, polyox, carboxymethyl cellulose, carboxypropyl cellulose, xanthan gum, gelatin, polyacrylic acid, carbopol, polyquaternium-11, polyquaternium-39, PVM/MA copolymer.(c) KIPO 2006Image 0/0

Alerting Abstract DESCRIPTION - The **liquid crystal phase teeth** whitening agent is **coated** at the **teeth** and whitens the **teeth**. The liquid crystal phase teeth whitening agent contains gricерol mono oleate, polymer, peroxide and solvent...

12/25,K/12 (Item 12 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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001568660 *Drawing available*

WPI Acc no: 2006-250936/200626

XRAM Acc no: C2006-081723

Temporary cosmetic dental coating for teeth, comprises transparent resin matrix formed from liquid composition, and glass microspheres embedded within transparent resin matrix by mixing glass microspheres into liquid composition

Patent Assignee: HURWITZ M M (HURW-I); NARASIMHAN D (NARA-I); I DID IT INC (IDID-N)

Inventor: HURWITZ M M; NARASIMHAN D

Patent Family (3 patents, 110 countries)

Patent Number	Kind	Date	Update	Type
US 20060063853	A1	20060323	200626	B
WO 2006034493	A2	20060330	200626	E
US 7214262	B2	20070508	200731	E

Local Applications (no., kind, date): US 2004949430 A 20040923; WO 2005US34383 A 20050923; US 2004949430 A 20040923

Priority Applications (no., kind, date): US 2004949430 A 20040923

Alerting Abstract US A1

NOVELTY - A temporary cosmetic dental coating (12), comprises a transparent resin matrix (13) formed from liquid composition; and glass microspheres (14) embedded within the transparent resin matrix by mixing glass microspheres into liquid composition to thus form a mixture adapted to be painted onto unetched teeth surfaces. The glass microspheres have refractive index greater than that of transparent resin matrix, and reflecting incident light (16).

DESCRIPTION - A temporary cosmetic dental coating, comprises a transparent resin matrix formed from liquid composition; and glass microspheres embedded within the transparent resin matrix by mixing glass microspheres into liquid composition to thus form a mixture adapted to be painted onto unetched teeth surfaces. The glass microspheres have refractive index greater than that of transparent resin matrix, and reflecting incident light by total internal reflection. The temporary cosmetic dental coating can be readily applied and removed by the user.

An **INDEPENDENT CLAIM** is also included for a process for applying a temporary cosmetic dental coating, comprising:

1. selecting a liquid composition selected from a methyl methacrylate monomer or bisphenol A-glycidyl methacrylate (BIS-GMA) methacrylic monomer;
2. mixing the liquid composition with ethyl alcohol to control viscosity of the temporary cosmetic dental coating;
3. adding glass microspheres coated with resin hardeners appropriate to the methacrylate resin;
4. mixing the **liquid** composition comprising **glass** microspheres to initiate the resin hardening reaction;
5. **coating** the surfaces of the **teeth** with the mixed liquid composition;
6. smoothening the coating surface; and

7. immobilizing the coated teeth surfaces for a few minutes to facilitate completion of the hardening reaction and production of the temporary cosmetic dental coating, the temporary cosmetic dental coating being readily applied to unetched teeth and removed by prying with a dental pick.

USE - Used as temporary cosmetic dental coating for teeth.

ADVANTAGE - The temporary coating could be safely applied by the user, at home, in a matter of minutes, to enhance reflectivity and appearance of the teeth. The coating comprises non-toxic components. The dental coating can be applied by the user without any etching of the teeth dentin surface. The bond of the temporary cosmetic dental coating is weak and can be flaked off or dissolved at will without damaging the teeth dentin surface.

DESCRIPTION OF DRAWINGS - The figure is a schematic diagram of a temporary cosmetic dental coating having a single array of glass microspheres embedded in a lower refractive index resin, showing the reflection of incident light.

11 Dental surface

12 Temporary cosmetic dental coating

13 Transparent resin matrix

14 Glass microspheres

16 Incident light

12/25,K/17 (Item 17 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0014500111 *Drawing available*

WPI Acc no: 2004-682027/200467

XRPX Acc No: N2004-540827

Denture is coated with room-temperature-setting liquid glass, and has teeth, metal, and gum coated with hyaline membrane

Patent Assignee: NAGAKUBO I (NAGA-I)

Inventor: NAGAKUBO I

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
JP 2004267721	A	20040930	200467	B

Local Applications (no., kind, date): JP 2003108421 A 20030306

Priority Applications (no., kind, date): JP 2003108421 A 20030306

Alerting Abstract JP A

NOVELTY - The denture (1) is **coated** with a room-temperature-setting **liquid glass** (2). In addition, the **teeth**, gum (3) and metal (4) of the denture are coated with hyaline membrane.

USE - Denture.

ADVANTAGE - Prevents deterioration and bacteria growth, thus fresh and neat impression is achieved.

DESCRIPTION OF DRAWINGS - The figure shows the explanatory drawing of upper denture. (Drawing includes non-English language text).

1 Denture

2 Room-temperature-setting liquid glass

3 Gum

4 Metal

Denture is coated with room-temperature-setting liquid glass, and has teeth, metal, and gum coated with hyaline membrane Alerting Abstract ...NOVELTY - The denture (1) is **coated** with a room-temperature-setting **liquid glass** (2). In addition, the **teeth**, gum (3) and metal (4) of the denture are coated with hyaline membrane.

12/25,K/28 (Item 28 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0005446025 *Drawing available*

WPI Acc no: 1991-045901/199107

XRAM Acc no: C1991-019443

XRPX Acc No: N1991-035755

Dental restoration has ceramic basal layer formed by flame spraying - alumina, zirconia or titania and coated with several layers of porcelain. body has improved shape retention and strength

Patent Assignee: EVANS P A (EVAN-I); HARRISON P (HARR-I)

Inventor: EVANS P A; HARRISON P

Patent Family (10 patents, 18 countries)				
Patent Number	Kind	Date	Update	Type
EP 412778	A	19910213	199107	B
NO 199003411	A	19910211	199115	E
CA 2022698	A	19910210	199117	E
FI 199003935	A	19910210	199119	E
JP 3218746	A	19910926	199145	E
US 5104319	A	19920414	199218	E
EP 412778	B1	19940518	199420	E
DE 69008970	E	19940623	199426	E
CA 2022698	C	20000125	200025	E
JP 3100390	B2	20001016	200054	E

Local Applications (no., kind, date): EP 1990308681 A 19900807; JP 1990213584 A 19900809; US 1990561771 A 19900802; EP 1990308681 A 19900807; DE 69008970 A 19900807; EP 1990308681 A 19900807; CA 2022698 A 19900803; JP 1990213584 A 19900809

Priority Applications (no., kind, date): GB 198918178 A 19890809

Alerting Abstract EP A

Base layer of predetermined thickness is formed by flame spraying in mfr. of dental restoration. Flame spraying is pref. by direct or indirect technique using free flowing powder or liq. contg. technical ceramic which is one or more of alumina, zirconia and titania and opt. includes small amts. of silicate based material. Plurality of porcelain layers is pref. applied to base which is opt. first heat treated.

ADVANTAGE - Restoration has improved shape retention compared to sintering moulded shapes, and strength is greater than prior porcelain-based materials. @ (6pp Dwg.No.1/1)@

Original Publication Data by Authority Argentina **Publication No. ...Claims:** steps of forming a base layer (6) of predetermined thickness of said restoration by flame **spraying** a free flowing powder or **liquid** incorporating a technical **ceramic** based material onto a thin **layer** covering a refractory **tooth** positive target and post heat treating said base layer, characterised in that said post heat...

14/25.K/1 (Item 1 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0009685519

WPI Acc no: 1999-105731/199909

Related WPI Acc No: 1999-105951

XRAM Acc no: C1999-031533

XRFX Acc No: N1999-076313

Dental restoration process - using flame spraying of a base layer onto a refractory model of the tooth, the model being cooled and then burnt out

Patent Assignee: EVANS P A (EVAN-I); HARRISON P (HARR-I); TECHCERAM LTD (TECH-N); YOUNG N R I (YOUN-I)

Inventor: EVANS P A; HARRISON P; YOUNG N R I

Patent Family (9 patents, 20 countries)

Patent Number	Kind	Date	Update	Type
WO 1999001081	A1	19990114	199909	B
EP 991369	A1	20000412	200023	E
US 6291378	B1	20010918	200157	E
EP 991369	B1	20020116	200212	E
JP 2002507143	W	20020305	200220	E
DE 69803182	E	20020221	200221	E
US 6398990	B1	20020604	200242	E
US 20020079600	A1	20020627	200245	E
ES 2172161	T3	20020916	200270	E

Local Applications (no., kind, date): WO 1998GB1921 A 19980630; EP 1998932329 A 19980630; WO 1998GB1921 A 19980630; US 1999468395 A 19991220; EP 1998932329 A 19980630; WO 1998GB1921 A 19980630; WO 1998GB1921 A 19980630; JP 1999506647 A 19980630 ; DE 69803182 A 19980630; EP 1998932329 A 19980630; WO 1998GB1921 A 19980630; WO 1998GB1921 A 19980630; US 1999467427 A 19991220; US 1999467427 A 19991220; EP 1998932329 A 19980630

Priority Applications (no., kind, date): GB 199713899 A 19970702

Alerting Abstract WO A1

A method for the production of a dental restoration by forming a model of a tooth in refractory material and forming a base layer of technical ceramic material of a predetermined thickness on the restoration. The base layer is formed by flame spraying, the model being of high thermal conductivity and cooled during spraying. Also claimed is a dental restoration made according to the above method.

USE - The material is used in dental restorations including veneers, crowns, inlays, onlays and bridge structures.

ADVANTAGE - The material has improved shape retention, high strength and a high thermal conductivity and can be fired while supported.

Original Publication Data by AuthorityArgentina**Publication No. ...Original**

Abstracts:a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to said refractory model, a base layer of predetermined thickness of said restoration, said refractory model being...
... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to said refractory model, a **base layer** of predetermined thickness of said restoration, said refractory model being cooled during the formation of...
... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to said refractory model, a **base layer** of predetermined thickness of said restoration, said refractory model being cooled during the formation of said...
... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to said refractory model, a **base layer** of predetermined thickness of said restoration, said refractory model being cooled during the formation of said base layer. The refractory...
...**Claims:**a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying directly** onto said refractory **model**, a base layer of technical ceramic based material of a predetermined thickness of said restoration, said...
... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly onto said refractory model, a base layer of technical **ceramic** based material of a **predetermined** thickness of said restoration, said refractory model being of high thermal conductivity and cooled during...

17/25,K/46 (Item 46 from file: 350)
DIALOG(R)File 350: Derwent WPIX
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0005446025 *Drawing available*
WPI Acc no: 1991-045901/199107
XRAM Acc no: C1991-019443
XRPX Acc No: N1991-035755

Dental restoration has ceramic basal layer formed by flame spraying - alumina, zirconia or titania and coated with several layers of porcelain, body has improved shape retention and strength

Patent Assignee: EVANS P A (EVAN-I); HARRISON P (HARR-I)

Inventor: EVANS P A; HARRISON P

Patent Family (10 patents, 18 countries)				
Patent Number	Kind	Date	Update	Type
EP 412778	A	19910213	199107	B
NO 199003411	A	19910211	199115	E
CA 2022698	A	19910210	199117	E
FI 199003935	A	19910210	199119	E
JP 3218746	A	19910926	199145	E
US 5104319	A	19920414	199218	E
EP 412778	B1	19940518	199420	E
DE 69008970	E	19940623	199426	E
CA 2022698	C	20000125	200025	E
JP 3100390	B2	20001016	200054	E

Local Applications (no., kind, date): EP 1990308681 A 19900807; JP 1990213584 A 19900809; US 1990561771 A 19900802; EP 1990308681 A 19900807; DE 69008970 A 19900807; EP 1990308681 A 19900807; CA 2022698 A 19900803; JP 1990213584 A 19900809

Priority Applications (no., kind, date): GB 198918178 A 19890809

Alerting Abstract EP A

Base layer of predetermined thickness is formed by flame spraying in mfr. of dental restoration. Flame spraying is pref. by direct or indirect technique using free flowing powder or liq. contg. technical ceramic which is one or more of alumina, zirconia and titania and opt. includes small amts. of silicate based material. Plurality of porcelain layers is pref. applied to base which is opt. first heat treated.

ADVANTAGE - Restoration has improved shape retention compared to sintering moulded shapes, and strength is greater than prior porcelain-based materials. @ (6pp Dwg.No.1/1)@

Original Publication Data by AuthorityArgentina**Publication No. ...Claims:**the steps of forming a base layer (6) of predetermined thickness of said restoration by **flame spraying** a free flowing powder or **liquid** incorporating a **technical ceramic** based material onto a thin **layer** covering a refractory **tooth** positive target and post heat treating said base layer, characterised in that said post heat...

23/25.K/1 (Item 1 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0015129068 *Drawing available*
WPI Acc no: 2005-478601/200548
XRAM Acc no: C2005-145647
XRPX Acc No: N2005-389686

Coated implant for in vivo-anchoring to biological tissue or another implant, comprises implant having a pre-treated surface containing layer(s) of mainly non-hydrated chemically bonded ceramic material

Patent Assignee: DOXA AB (DOXA-N)

Inventor: ENGQVIST H; HERMANSSON L; LOEOEF J; LOEOEFF J; LOOF J

Patent Family (6 patents, 107 countries)

Patent Number	Kind	Date	Update	Type
WO 2005053764	A1	20050616	200548	B
SE 200303169	A	20050528	200548	E
EP 1689459	A1	20060816	200654	E
JP 2007512082	W	20070517	200735	E
US 20070173952	A1	20070726	200750	E
IN 200602347	P4	20070706	200769	E

Local Applications (no., kind, date): WO 2004SE1745 A 20041125; SE 20033169 A 20031127; EP 2004819997 A 20041125; WO 2004SE1745 A 20041125; WO 2004SE1745 A 20041125; JP 2006541100 A 20041125; WO 2004SE1745 A 20041125; US 2007580613 A 20070308; WO 2004SE1745 A 20041125; IN 2006CN2347 A 20060627

Priority Applications (no., kind, date): SE 20033169 A 20031127

Alerting Abstract WO A1

NOVELTY - A coated implant (1) comprises an implant having a pre-treated surface containing layer(s) of mainly non-hydrated chemically bonded ceramic material. Each layer of the ceramic material independently comprises a first binder phase such as aluminates, silicates, phosphates, and/or sulfates, and that the ceramic material is chemically and/or mechanically bound to the implant.

DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- a. a method of manufacturing a coated implant, comprising pre-treating the surface of an implant, applying on the pre-treated surface one or more layers of mainly powdered nonhydrated ceramic material, which layers independently comprises a first binder phase such as aluminates, silicates, phosphates, and/or sulfates, and optionally pre-hydrating the ceramic material by contacting it with a curing liquid or body fluid to form a chemical and/or mechanical bond between the ceramic material and the implant;
- b. a ceramic paste (5) comprising powdered calcium-based binder of aluminate and/or silicate and a hydration liquid; and

- c. an implantation kit for in vivo-anchoring an implant to a biological tissue or another implant, comprising the coated implant and optionally a curing liquid capable of hydrating the binder phase of the coated implant and a paste, where the ceramic powder and hydration liquid of the paste are kept separately.

USE - The implant is for in vivo-anchoring to a biological tissue or another implant. It is used as medical, orthopedic or dental implant e.g. artificial orthopedic device, spinal implant, joint implant, attachment element, bone nail, bone screw, or bone reinforcement plate. (All claimed). It is useful for orthopedic and dental applications.

ADVANTAGE - The inventive implant provides a sufficiently high strength and load-bearing capacity, and promotes re-growth of the bone.

DESCRIPTION OF DRAWINGS - The drawing shows a cross-sectional view of the coated implant, including the ceramic paste immediately after it has been arranged against the biological wall.

- 1 Implant
- 2 Coating layer
- 3 Outer layer
- 4 Hard tissue
- 5 Paste
- 6 Vacuoles

Technology Focus ...of the coating is applied on the implant surface by any of the following techniques: **thermal spraying**, **flame spraying**, Electro Deposition Spraying (EDS), **plasma spraying**, dipping and spin coating. The innermost layer of the coating is applied on the implant... **Extension Abstract Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date ...**A61C-0008/00**
...**A61C-0008/00**

Dialog eLink: [Order File History](#)

23/25.K/2 (Item 2 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0008431486

WPI Acc no: 1997-549765/199750

XRAM Acc no: C1997-175404

XRPX Acc No: N1997-458338

Coating a substrate with carbonated hydroxy-apatite used as orthopaedic or dental prostheses or implants - comprises immersing substrate in aqueous solution of calcium ions, phosphate ions and bicarbonate ions, heating and maintaining substrate in contact with heated super saturated solution

Patent Assignee: 3C RES SRL (THRE-N); BIOCOATINGS SRL (BIOC-N);

BIOTECNIC SA (BIOT-N); CASTI A (CAST-I); CHI-BO SRL (CHIB-N);
CREMASCOLI SRL G (CREM-N); FLAMETAL SPA (FLAM-N)

Inventor: RANZ X; REY C

Patent Family (6 patents, 20 countries)

Patent Number	Kind	Date	Update	Type
WO 1997041273	A1	19971106	199750	B
EP 904421	A1	19990331	199917	E
EP 904421	B1	20000719	200037	E
DE 69702610	E	20000824	200048	E
IT 1288038	B	19980910	200126	E
US 6280789	B1	20010828	200151	E

Local Applications (no., kind, date): WO 1997IT89 A 19970421; EP 1997919640 A 19970421; WO 1997IT89 A 19970421; EP 1997919640 A 19970421; WO 1997IT89 A 19970421; DE 69702610 A 19970421; EP 1997919640 A 19970421; WO 1997IT89 A 19970421; IT 1996PR21 A 19960430; WO 1997IT89 A 19970421; US 1999180059 A 19990628

Priority Applications (no., kind, date): IT 1996PR21 A 19960430

Alerting Abstract WO A1

A coating essentially of carbonated hydroxyapatite (I) is applied to a substrate by: (a) immersing the substrate in an aqueous solution containing, mmole/litre, 1-3.8 calcium ions, 1-3.8 phosphate ions, and 0.08-3.8 bicarbonate ions, with molar ratio calcium:phosphate 0.8-2.0, pH 6.8-8.0, temperature below 50 (deg)C; (b) heating at 50-80 (deg)C until pH is greater than 8; (c) maintaining the substrate in contact with the heated supersaturated solution, causing coating of the substrate with (I); (d) removing substrate from the solution when required coating thickness has been obtained, and (e) drying the coating. Substrates coated with (I), optionally over other coatings, are claimed. USE - Coatings of (I) are non-toxic, biocompatible, osteo-conductive, bioresorbable or biodegradable, and bioactive; they are suitable for orthopaedic or dental prostheses and implants.

Documentation Abstract ...a coating previously deposited on a support, e.g. a coating of hydroxyapatite deposited by **plasma spraying** on a metal support. A metal support may have a first coating of metal, a... and (I) as the third coating, with first and second coatings deposited e.g. by **plasma spraying**.
Documentation Abstract Image Class Codes International Patent Classification IPC Class Level Scope Position Status Version Date **A61C**;

26/25,K/23 (Item 23 from file: 350)
DIALOG(R)File 350: Derwent WPIX
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0010166422

WPI Acc no: 2000-475596/200041

XRAM Acc no: C2000-142483

XRPX Acc No: N2000-354850

Method of adorning a tooth comprises etching tooth, applying and curing unfilled resin, applying filled resin and affixing jewel to tooth without necessity of custom fitting or conforming the jewel to tooth

Patent Assignee: KUNSTADTER M A (KUNS-I); SIGLER M K (SIGL-I)

Inventor: KUNSTADTER M A; SIGLER M K

Patent Family (2 patents, 82 countries)

Patent Number	Kind	Date	Update	Type
WO 2000038587	A1	20000706	200041	B
AU 199920208	A	20000731	200050	E

Local Applications (no., kind, date): WO 1998US27785 A 19981229; WO 1998US27785 A 19981229; AU 199920208 A 19981229

Priority Applications (no., kind, date): WO 1998US27785 A 19981229

Alerting Abstract WO A1

NOVELTY - Method of adorning a tooth without necessity of custom fitting or conforming the jewel to tooth involves etching the tooth and applying unfilled resin to the etched surface. The unfilled resin is cured, and then a filled resin is applied on the cured unfilled resin. A jewel is placed in the unfilled cured resin and the filled resin is cured to firmly bond the jewel to the tooth.

DESCRIPTION - An **INDEPENDENT CLAIM** is also included for tooth decorating system without necessity of custom fitting or conforming the jewel to the tooth. At least one jewel to fit on the surface of tooth and a bonding material for bonding the jewel to the tooth are provided.

USE - For decorating tooth such as affixing jewelry.

ADVANTAGE - The method avoids mutilation of the tooth, use of a crown, malleable foil, or making of an impression of tooth and forming the jewelry to conform with the shape of the target tooth. The jewels can be used alone or in conjunction with one another such as Christmas Holly, comet or other like to create a design. The jewel applied will remain affixed to the tooth for at least several months, even longer, without maintenance. However, if the person desires to remove the applique, a dentist can easily do so with conventional dental tools. The method also allows dentists to decorate a patient's teeth as a part of patient's regular dental check-ups thereby, multiple visits are not required.

Technology Focus ...diameter and is comprised of quartz crystals. The bonding material comprises an unfilled acrylic resin **liquid** and **filled quartz resin**. **Extension Abstract**
Class Codes International Patent Classification IPC Class Level Scope Position Status
Version Date ...A61C-0019/00... ...A61C-0007/16 ...A61C-0019/00... ...A61C-0007/00

26/25,K/38 (Item 38 from file; 350)
DIALOG(R)File 350: Derwent WPIX
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0002491567

WPI Acc no: 1982-72705E/198235

Bonding of materials to calcified tissues - by forming crystal growth adhered to tissue, then interlocking with crystal growth

Patent Assignee: DENNIS SMITH CONSUL (DENN-N); ROMADA HOLDINGS LTD (ROMA-N); SMITH D CONSULTING (SMIT-N); TORONTO T ROMADA HOLDING (TORO-N)

Inventor: MAIJER R; SMITH D C

Patent Family (7 patents, 15 countries)

Patent Number	Kind	Date	Update	Type
EP 58527	A	19820825	198235	B
JP 57158713	A	19820930	198245	E
BR 198200814	A	19821228	198307	E
US 4382792	A	19830510	198321	NCE
US 4548583	A	19851022	198545	NCE
US 4600383	A	19860715	198631	NCE
CA 1252318	A	19890411	198919	E

Local Applications (no., kind, date): EP 1982300690 A 19820211; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027; US 1985704340 A 19850222; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027 ; US 1985704340 A 19850222; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027; US 1985704340 A 19850222; CA 370777 A 19810213

Priority Applications (no., kind, date): CA 370777 A 19810213; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027; US 1985704340 A 19850222

Alerting Abstract EP A

Materials (I) are bonded to calcified tissues by forming a crystal growth adhered to the tissue surface, then interlocking the bonding with the crystal growth. The crystal growth is pref. gypsum (II) crystals of needle-shape and spherulitic habit, The growth may be

formed by treatment of the tooth with a soln. (of non-flowing viscosity) contg. an ionic species capable of interacting with calcified tissue to form an insol. Ca salt and which is mildly acidic (to release Ca^{2+} from tooth surface). A prefd. soln. 10-60% polyacrylic acid (mol.wt. 1000-100,000) contg. at least 1% is aq.. Opt. the soln. may also contain The bond allows functional stress transfer across the interface between reconstructive materials and calcified tissues, and minimises leakage in tooth restoration, etc. In addn., outer enamel is not lost in the process, and bonded orthodontic attachments may be removed without damage.

Class Codes International Patent Classification IPC Class Level Scope Position Status
Version Date **A61C-003/00** Main **A61C-005/04...** Original Publication Data by
Authority Argentina **Publication No. ...Original Abstracts:** which are formed by
contacting the tissue surface with a mildly acidic solution containing sulphate ions. An
uncured **liquid** resin is **applied** to the **crystal** growth and is cured to achieve adhesion by
micromechanical **interlock** with the **crystal** growth and **by** superficial penetration of the
tissue surface.... are formed by contacting the tissue surface with a mildly acidic
solution containing sulphate ions. An uncured **liquid** resin is **applied** to the **crystal**
growth and is cured to achieve adhesion by micromechanical interlock with the **crystal**
growth **and** by superficial **penetration** of the **tissue** surface.

FULLTEXT

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(c) 1999 The Gale Group

File 148:Gale Group Trade & Industry DB 1976-2010/Jun 30
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(c) 2010 Mass. Med. Soc.

File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS

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Set	Items	Description
S1	1838272	GLASS OR CRYSTAL? ? OR CERAMIC? ? OR HYDROXYAPATITE? ? OR HYDROXYLAPATITE? OR BIOCERAMIC? ?
S2	902782	QUARTZ? OR DIAMOND? OR SAPPHIRE? ? OR TOPAZ? OR AMETHYST? OR ZIRCON? OR AGATE? ? OR GRANITE? ? OR SPINEL? ? OR FIANITE? ? OR TANZANITE? ? OR TOURMALINE? ?
S3	139127	S1(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S4	3864	S2(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S5	142472	S3 OR S4
S6	48847	S5/2005:2010
S7	93625	S5 NOT S6
		LIMITALL S7

S8 2497 S5(7N)(POUR? OR BRUSH? OR PAINT? OR LAMINAT? OR COAT?
 OR FILL OR FILLS OR FILLED OR FILLING OR SPRAY? OR APPLY? OR APPLIE? ?)
 S9 725 BONE OR BONES
 S10 455 TEETH OR TOOTH
 S11 116 HARD()TISSUE? ? OR CARTILAG?
 S12 983 SKELETON? OR VERTEBRA? OR FEMUR? ? OR COCCY??? OR ULNA?
 ? OR HUMER?? OR TIBIA? ? OR FIBULA? ? OR SACRUM OR SACRA OR SPINE OR
 SPINES OR BACKBONE? ?
 S13 13 S8(S) (S9:S12)
 S14 11 RD (unique items)
 S15 110 S8 AND (S9:S12)
 S16 97 S15 NOT S13
 S17 85 RD (unique items)
 S18 11 S4(S) (S9:S12)
 S19 8 S18 NOT (S15 OR S13)
 S20 8 RD (unique items)
 S21 228 (S9:S12) (S)S3
 S22 211 S21 NOT (S18 OR S15 OR S13)
 S23 166 RD (unique items)

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14/3,K/2 (Item 1 from file: 16)

DIALOG(R)File 16: Gale Group PROMT(R)

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05520962 Supplier Number: 48368345

Zeolithe f r Mikroelektronik und Zahnersatz

Blick durch die Wirtschaft , p 15

March 20 , 1998

Language: English Record Type: Abstract

Document Type: Newsletter ; Trade

Abstract:

...material that can replace amalgam in tooth fillings.
 Nordsee-Zeitung
 reports that Ormocer, a tooth **filling** material developed
 by
 Degussa, contains 70% **ceramic** powder and 30% **liquid**
ceramic binding material. A big **filling** costs DM 80-120.
 According to Presstexte, the biocompatible **tooth** filling
 material
 by Degussa releases no monomers and has an abrasion similar
 to amalgam.
 The...

14/3,K/11 (Item 2 from file: 636)

DIALOG(R)File 636: Gale Group Newsletter DB(TM)

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02028735 **Supplier Number:** 43677892 (USE FORMAT 7 FOR FULLTEXT)

Sekisui Chemical to market bioceramic

New Materials Japan , p N/A

March , 1993

Language: English **Record Type:** Fulltext

Document Type: Newsletter ; Trade

Word Count: 93

-
...below 0.1 Um. It is said to be ideal for use in water-based

paints, fluid cosmetics and toothpaste. **Hydroxyapatite** is also finding increasing use in artificial **bone** and **teeth,**

says the company.

For further information, contact: Sekisui Chemical Co Ltd, 2-4-4, Nishi...

17/3,K/2 (Item 2 from file: 9)

DIALOG(R)File 9: Business & Industry(R)

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02890039 **Supplier Number:** 95259857 (USE FORMAT 7 OR 9 FOR FULLTEXT)

BASF takes big steps in small technology. (Nanomaterials. (introduces nanomaterials technologies)

Chemical Week , v 164, n 47, p 45

December 04, 2002

Document Type: Journal **ISSN:** 0009-272X (United States)

Language: English **Record Type:** Fulltext

Word Count: 801 (USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...well as for hydrogen storage "nanocubes" for fuel cells (picture, right), scratch-resistant polymers, synthetic **tooth** enamel, and superinsulators for electronic applications. BASF is focusing R&D on new nanomaterials, as...

...says.

Dental care is one of the target markets. The company is developing a synthetic **tooth** enamel, hydroxyapatite, that is generated in the form of nano-sized crystals (CW, Nov. 6, p. 32). The needle-shaped

nanocrystals interconnect to form a protective layer that adsorbs onto **tooth** enamel. The crystals protect **teeth** from decay and make them whiter, and are an alternative to standard bleaching methods that remove **tooth** enamel, BASF says.

The company also wants to introduce novel emulsion polymers with nanodimensions. BASF...

...composed of a polystyrene core surrounded by a shell of polybutyl acrylate. The film is **sprayed** onto a surface in **liquid** form and dries into ordered **crystals**. Applications could include packaging films, decorative papers, and cosmetic applications, including nail polish and hairspray...

17/3,K/24 (Item 3 from file: 148)
DIALOG(R)File 148: Gale Group Trade &
Industry DB
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15279720

Supplier Number: 95259857 (USE
FORMAT 7 OR 9 FOR FULL TEXT)
**BASF takes big steps in small
technology. (Nanomaterials).(introduces nanomaterials
technologies)**

Scott, Alex

Chemical Week , 164 , 47 , 45(1)

Dec 4 , 2002
ISSN: 0009-272X

Language:

English

Record Type: Fulltext

Word Count:

879 **Line Count:** 00075

...well as for hydrogen storage "nanocubes" for fuel cells
(picture,

right), scratch-resistant polymers, synthetic **tooth** enamel, and superinsulators for electronic applications. BASF is focusing R&D on new nanomaterials, as...says.

Dental care is one of the target markets. The company is developing a synthetic **tooth** enamel, hydroxyapatite, that is generated in the form of nano-sized crystals (CW, Nov. 6, p. 32). The needle-shaped nanocrystals interconnect to form a protective layer that adsorbs onto **tooth** enamel. The crystals protect **teeth** from decay and make them whiter, and are an alternative to standard bleaching methods that remove **tooth** enamel, BASF says.

The company also wants to introduce novel emulsion polymers with nanodimensions. BASF...composed of a polystyrene core surrounded by a shell of polybutyl acrylate. The film is **sprayed** onto a surface in **liquid** form and dries into ordered **crystals**. Applications could include packaging films, decorative papers, and cosmetic applications, including nail polish and hairspray...

17/3,K/46 (Item 25 from file: 148)
DIALOG(R)File 148: Gale Group Trade & Industry DB
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04527971 **Supplier Number:** 08556015 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Materials handbook for refractories, traditional & advanced ceramics. (part 2; L through Z)

Ceramic Industry , v134 , n1 , p75(39)

Jan , 1990

ISSN: 0009-0220

Language: ENGLISH

Record Type: FULLTEXT

Word Count: 62009 **Line Count:** 05118

...colors ranging from ivory through yellows to dark tan, according to the amount introduced. Artificial **teeth** are among the ceramics so

tinted. One product, mined and milled in Virginia, is reported...film of water on the dielectric and effectively stops surface leakage. For nonporous ceramic, the **coating** is a baked-on **fluid**; for porous **ceramic**, a resin; and for ceramic insulation for high power lines, a grease. Silicones are used...

...bottles and are applied to the inside of glass containers to ensure complete drainage of **liquid**.

Where high temperatures are encountered, **glass** fiber **laminates** use silicones as the bonding agents. Totally enclosed motors, which are found where there is...

17/3,K/57 (Item 3 from file: 15)
DIALOG(R)File 15: ABI/Inform(R)
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02499877 261542451
BASF takes big steps in small technology

Scott, Alex
Chemical Week v164n47 pp: 45
Dec 4, 2002
ISSN: 0009-272X Journal Code: CEM
Word Count: 830

Abstract:

...color, as well as for hydrogen storage nanocubes for fuel cells, scratch-resistant polymers, synthetic **tooth** enamel, and superinsulators for electronic applications. The company is developing a synthetic **tooth** enamel, hydroxyapatite, that is generated in the form of nano-sized crystals. The company also...

Text:

...well as for hydrogen storage "nanocubes" for fuel cells (picture, right), scratch-resistant polymers, synthetic **tooth** enamel, and superinsulators for electronic applications. BASF is focusing R&D on

new nanomaterials, as...

...says.

Dental care is one of the target markets. The company is developing a synthetic **tooth** enamel, hydroxyapatite, that is generated in the form of nano-sized crystals (CW, Nov. 6, p. 32). The needle-shaped nanocrystals interconnect to form a protective layer that adsorbs onto **tooth** enamel. The crystals protect **teeth** from decay and make them whiter, and are an alternative to standard bleaching methods that remove **tooth** enamel, BASF says.

The company also wants to introduce novel emulsion polymers with nanodimensions. BASF...

...composed of a polystyrene core surrounded by a shell of polybutyl acrylate. The film is **sprayed** onto a surface in **liquid** form and dries into ordered **crystals**. Applications could include packaging films, decorative papers, and cosmetic applications, including nail polish and hairspray...

17/3,K/72 (Item 2 from file: 624)
DIALOG(R)File 624: McGraw-Hill Publications
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01072350
ADVANCES IN ARTIFICIAL LIMBS IS GOAL OF BERKELEY
RESEARCH

Federal Technology Report, Number 3672, Pg 9
February 10, 2000
JOURNAL CODE: TTR
SECTION HEADING: FEDERAL LABS ISSN: 1042-9158/9
WORD COUNT: 472

TEXT:

...are devising a new glass that they say improves the way artificial limbs bond to **bones**. The material could significantly extend the life of prosthetic devices.

The so-called ``bioactive'' glass...
... both of these approaches have good mechanical properties, neither is able to bond properly with **bone**, the lab said. As a result, the metal from the implant can rub against **bone** and wear out easily.

But Antoni Tomasia, a materials scientist at LBNL, said researchers are...

...of the implant and promotes the formation of hydroxyapatite.''

Hydroxyapatite is the inorganic part of **bone**. Tomasia and LBNL physicist Eduardo Saiz have created a bioactive silicon-based substance and an...

... Tomasia. Previous coatings were based on ceramics, but they also proved to have shortcomings.

When **ceramic-based coatings** were **heated**, they tended to crack at the adhesion points. In addition, chemical reactions between the coatings...

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Set	Items	Description
S1	2916067	BONE OR BONES
S2	698446	TEETH OR TOOTH
S3	347911	HARD()TISSUE? ? OR CARTILAG?
S4	8807834	GLASS OR CRYSTAL? ? OR CERAMIC? ? OR HYDROXYAPATITE? ?
		OR HYDROXYLAPATITE? OR BIOCERAMIC? ?

S5 1282792 S4(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR
 MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
 S6 105 S5(7N)S2
 S7 45 S6/2005:2010
 S8 60 S6 NOT S7
 S9 54 RD (unique items)
 S10 976 S5(7N)S1
 S11 117 S5(7N)S3
 S12 2151998 S1/DE
 S13 116 S11 NOT S6
 S14 24 S13/2005:2010
 S15 92 S13 NOT S14
 S16 53 RD (unique items)
 S17 19109020 SKELETON? OR VERTEBRA? OR FEMUR? ? OR COCCY??? OR ULNA?
 ? OR HUMER?? OR TIBIA? ? OR FIBULA? ? OR SACRUM OR SACRA OR SPINE OR
 SPINES OR BACKBONE? ?
 S18 571 S5(7N)S17
 S19 32 S18 AND S12
 S20 31 S19 NOT (S11 OR S6)
 S21 6 S20/2005:2010
 S22 25 S20 NOT S21
 S23 24 RD (unique items)
 S24 840 S10 AND S12
 S25 81 S10(7N)(POUR? OR BRUSH? OR PAINT? OR LAMINAT? OR COAT?
 OR FILL OR FILLS OR FILLED OR FILLING)
 S26 76 S25 NOT (S19 OR S11 OR S6)
 S27 48 S26/2005:2010
 S28 28 S26 NOT S27
 S29 22 RD (unique items)

? log off

9/5/12 (Item 2 from file: 45)

DIALOG(R)File 45: EMCare

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0004611118 EMCARE No: 40353597

Histopathological and cell enzyme studies of calcium phosphate cements

Sugawara A.; Fujikawa K.; Takagi S.; Chow L.C.; Nishiyama M.; Murai S.
 Department of Dental Materials, Nihon University, School of Dentistry, 1-8-13, Kanda-
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Dental Materials Journal (Dent. Mater. J.) (Japan) December 1, 2004 , 23/4 (613-620)

PUBLISHER: Japanese Society for Dental Materials and Devices

ISSN: 0287-4547

DOCUMENT TYPE: Journal ; Article RECORD TYPE: Abstract

LANGUAGE: English SUMMARY LANGUAGE: English

NUMBER OF REFERENCES: 28

New types of self-setting calcium phosphate cement (N-CPC), which do not contain tetracalcium phosphate, were recently developed. N-CPCs harden in 10 minutes with phosphate solution as the cement liquid, and form hydroxyapatite as the set product. The objectives of the present study were to evaluate the biocompatibility (Study I) and cell enzyme activity of N-CPCs and a conventional CPC (Study II). Four experimental cements were tested: (1) dicalcium phosphate anhydrous (DCPA) and calcium oxide; (2) DCPA and calcium hydroxide; (3) tricalcium phosphate and calcium carbonate; and (4) DCPA and tetracalcium phosphate. Phosphate solution was used as the cement liquid for cements (1)-(3), and water for cement (4). Sintered hydroxyapatite particles (5) were used as a control. The test materials were implanted subcutaneously in rats. Four weeks after operation, the animals were sacrificed and histopathological observations were performed. Cements (2) and (3) showed no inflammatory reaction, and were surrounded only by very thin fibrous connective tissues. The histopathological reactions of N-CPCs were nearly identical and were similar to (4) and (5). In addition, effects of alkaline phosphatase (ALP-ase) activity - invoked by the presence of cements (3) and (4) - on osteoblast-like cells derived from dog alveolar bone were also examined because ALP-ase activity is closely related to new bone formation. These results indicated that (3) and (4) were highly compatible with subcutaneous tissues and suggested that these cements may enhance new bone formation.

DESCRIPTORS:

* alkaline phosphatase; *calcium phosphate; *cell enzyme; *cement
alveolar bone; animal experiment; biocompatibility; calcium carbonate; calcium hydroxide; calcium oxide; calcium phosphate dibasic; connective tissue; controlled study; dog; enzyme activity; histopathology; **hydroxyapatite**; implant; inflammation; **liquid**; nonhuman; ossification; osteoblast; phosphate; rat; subcutaneous tissue; **tooth cement**; water

9/5/13 (Item 3 from file: 45)

DIALOG(R)File 45: EMCare

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0004455598 **EMCARE No:** 38738824

Fit Checker(R) for all ceramic restorations

Pohjola R.M.

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Augusta, GA, United States; 1120 15th St, Augusta, GA 30912-1260, United States

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CORRESP. AUTHOR/AFFIL: Pohjola R.M.: 1120 15th St, Augusta, GA 30912-1260,
United States

CORRESP. AUTHOR EMAIL: rpohjola@mail.mcg.edu

Operative Dentistry (Oper. Dent.) (United States) May 1, 2004 , 29/3 (346)

PUBLISHER: Indiana University School of Dentistry

ISSN: 0361-7734

DOCUMENT TYPE: Journal ; Article **RECORD TYPE:** Citation

LANGUAGE: English

DEVICE BRAND NAME/MANUFACTURER NAME: FIT CHECKER/GC/Japan

DEVICE MANUFACTURER NAMES: GC/Japan

DESCRIPTORS:

* ceramics

catalyst; **ceramic** prosthesis; color; food dye; **liquid**; staining; **tooth** crown; **tooth** prosthesis

9/5/14 (Item 4 from file: 45)

DIALOG(R)File 45: EMCare

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0004012847 **EMCARE No:** 33660601

The effect of luting media on the fracture resistance of a flame sprayed all-ceramic crown

Casson A.M.; Glyn Jones J.C.; Youngson C.C.; Wood D.J.

Division of Restorative Dentistry, Leeds Dental Institute, Clarendon Way, Leeds, LS2 9LU, United Kingdom

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CORRESP. AUTHOR EMAIL: d.j.wood@leeds.ac.uk

Journal of Dentistry (J. Dent.) (United Kingdom) November 1, 2001 , 29/8 (539-544)

PUBLISHER: Elsevier Ltd

CODEN: JDENA **ISSN:** 0300-5712

PUBLISHER ITEM IDENTIFIER: S0300571201000409

DOI: 10.1016/S0300-5712(01)00040-9

Item Identifier (DOI): [10.1016/S0300-5712\(01\)00040-9](https://doi.org/10.1016/S0300-5712(01)00040-9)

DOCUMENT TYPE: Journal ; Article **RECORD TYPE:** Abstract

LANGUAGE: English **SUMMARY LANGUAGE:** English

NUMBER OF REFERENCES: 32

Objectives: This in vitro study investigated the effect of selected luting media on the fracture resistance of a flame-sprayed all-ceramic crown. **Methods:** Three groups of 10 human upper premolar teeth were prepared for crowning using a standardised technique. Flame sprayed crowns were fabricated and cemented onto the preparations using zinc phosphate (ZPC), glass polyalkenoate (GPC) or composite luting cement (CLC). During crown seating, a pressure perfusion system simulated pulpal fluid outflow equivalent to 300 mm of H SUB 2 O. Compressive fracture resistance was determined for each group using a Universal Testing Machine with a crosshead speed of 1 mm min SUP -1 . **A**

group of unrestored teeth acted as a control. Results: The fracture resistance of the groups ranked as follows: ZPC > CLC (much greater than) GPC = unrestored teeth. The difference between the fracture resistance of ZPC and CLC groups and the control group was statistically significant. The mode of fracture between the luted crowns and natural crowns was markedly different. Conclusions: When tested in compression, a new, flame-sprayed all-ceramic crown, when luted in place using ZPC, GPC or CLC, could produce strengths comparable to or greater than natural unrestored teeth. The luting agent used significantly affected the recorded fracture loads. (c) 2001 Elsevier Science Ltd. All rights reserved.

DESCRIPTORS:

* ceramics; *fracture

cement; compression; control group; **glass**; human; in vitro study; **liquid**; machine; perfusion; premolar **tooth**; seat; **tooth**; velocity; zinc phosphate

9/5/35 (Item 4 from file: 2)

DIALOG(R)File 2: INSPEC

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06266675

Title: Preparation of press-formable CaO-MgO-SiO₂-TiO-Ag₂O glass for dental crown

Author(s): Nonami, T.¹; Tsutsumi, S.

Affiliation(s):

¹ Mater. Res. Center, TDK Corp., Chiba, Japan

Journal: Journal of the Ceramic Society of Japan, vol.104, no.3, pp.201-7

Publisher: Ceramic Soc. Japan

Country of Publication: Japan

Publication Date: March 1996

ISSN: 0914-5400

ISSN Type: print

SICI: 0914-5400(199603)104:3L:201:PPFS;1-G

CODEN: NSKRE2

Language: English

Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: Glass-ceramics were searched for in the systems based on CaO-MgO-SiO₂-TiO₂-Ag₂O. The glasses melted at 1500(deg)C could be cast. The absorptions were measured. Silver colloids formed in the glasses of composition CaO.MgO.2SiO₂.0.375TiO₂.0.007Ag₂O, and CaO.MgO.2SiO₂.0.49TiO₂.0.007Ag₂O. The crystallization of diopside of these glasses are controlled by volume nucleation and growth processes. It is shown that the activation energy for crystallization of diopside decreases of these glasses. A fluidity of diopside glass was observed at 800-900(deg)C by the viscous flow mechanism. It can be formed precisely and crystallized under pressure of 0.15 MPa at 850(deg)C for 40 min, and the glass-ceramics contained crystalline

diopside. The bending strength was about 350 MPa. This glass-ceramics crystal phase look similar to natural teeth in color and translucency without any deformation. Such a press-forming method is superior to casting method because it is free from pores, and it can be formed lower temperature than 900(deg)C regardless of the glass has high melting point. (18 refs.)

Subfile(s): A (Physics)

Descriptors: bending strength; calcium compounds; casting; crystallisation; glass; magnesium compounds; nucleation; plastic deformation; prosthetics; silicon compounds; silver compounds; titanium compounds

Identifiers: press-formable CaO-MgO-SiO₂-TiO-Ag₂O glass; dental crown applications; preparation; crystallization; growth processes; volume nucleation; diopside **glass fluidity**; **glass-ceramics**; deformation; natural **teeth** color; melting point; 800 to 900 C; 40 min; 1500 C; CaO-MgO-SiO₂-TiO-Ag₂O

Classification Codes: A8120P (Preparation of glasses); A8770J (Prosthetics and other practical applications); A8140L (Deformation, plasticity and creep); A6220F (Deformation and plasticity); A8130F (Solidification); A6470D (Solid-liquid transitions); A6140D (Structure of glasses)

International Patent Classification:

A61F-0002/02 (Prostheses implantable into the body)

B01D-0009/00 (Crystallisation)

B22D (Casting of metals; Casting of other substances by the same processes or devices)

Chemical Indexing:

CaOMgOSiO₂TiOA₂O/ss - SiO₂/ss - Ag₂/ss - O₂/ss - Ag/ss - Ca/ss - Mg/ ss - Si/ss - Ti/ss - O/ss

Numerical Indexing: time: 2.4E+03 s; temperature: 1.77E+03 K; temperature: 1.07E+03 to 1.17E+03 K

INSPEC Update Issue: 1996-019

Copyright: 1996, IEE

9/5/44 (Item 1 from file: 95)

DIALOG(R)File 95: TEME-Technology & Management

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01984067 20050601905

Bioactive cyanoacrylate-based filling material for bone defects in dental applications

Park, Kyeong-Jun; Park, Ji-Ho; Lee, Sang-Bae; Lee, Doug-Youn; Kim, Kyoung-Nam; Kim, Kwang-Mahn

Yonsei Univ., Seoul, KR

Bioceramics 17, 17th Internat. Symp. on Ceramics in Medicine, the Annual Meeting of the Internat. Soc. for Ceramics in Medicine, New Orleans, US, Dec 8-12, 2004 Key Engineering Materials, v284-286, n1, pp933-936, 2004

Document type: Conference paper **Language:** English

Record type: Abstract

ISBN: 0-87849-961-X

ISSN: 1013-9826

Abstract:

The authors tried to prepare a new filling material for bone defects using beta-Tricalcium phosphate (beta-TCP) particles and Histoacryl. The aim of this study was to evaluate physical and bioactive properties of cyanoacrylate-based filling materials for bone defects in the dental field. The shear bond strength values of the Histoacryl and beta-TCP/Histoacryl compounds stored in double-distilled water decreased with the increase of the amount of added beta-TCP. The temperature change of the beta-TCP/ Histoacryl compounds during polymerization decreased compared to that of the Histoacryl. The cytotoxicity of the filling materials decreased when the amount of added beta-TCP was increased. In the evaluation of bioactivity, hydroxyapatite (HA) was precipitated on the surface and inner space of the porous filling material 4 weeks after immersion in SBF. This precipitation of HA on the surface of the filling material was also confirmed in the XRD result. These results indicate that our novel beta-TCP/Histoacryl compounds have the potential to serve as filling materials for bone defects in the dental field.

Descriptors: BIOACTIVITY; HYDROXYAPATITE; ARTIFICIAL TOOTH;
DENTAL FILLING ; BODY FLUID; TRICALCIUM PHOSPHATE; MATERIAL
PROPERTIES

Identifiers: bioaktiver Zahnuellstoff; Histoacryl; Hydroxyapatit; Tricalciumphosphat

9/5/50 (Item 3 from file: 144)

DIALOG(R)File 144: Pascal

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01667971 PASCAL No.: 77-0439284

ADHESIVE BOUNDING OF VARIOUS MATERIALS TO HARD TOOTH TISSUES.

XII. ADSORPTION OF N-(2-HYDROXY-3-METHACRYLOXYPROPYL)-N-PHENYLGLYCINE (NPG-GMA)

ON HYDROXYAPATITE.

MISRA D N; DOWEN R L

AMERICAN DENTAL ASSOCIATION HEALTH FOUNDATION, N.B.S. WASHINGTON, D.C.
20234

Journal: J. COLLOID INTERFACE SCI.,
1977, 61 (1) 14-20

Availability: CNRS-4124

No. of Refs.: 15 REF.

Document Type: P (SERIAL) ; A (ANALYTIC)

Country of Publication: USA

Language: ENGLISH

English Descriptors: ADSORBENT; INORGANIC ADSORBENT; LIQUID SOLID
ADSORPTION; AMINOACID; HYDROXYAPATITE; CHEMISORPTION; TEETH
; ORGANIC BINDER

English Generic Descriptors: PHYSICAL CHEMISTRY

French Descriptors: AMINOACIDE; ADSORPTION LIQUIDE SOLIDE;
CHIMISORPTION;
ADSORBANT MINERAL; ADSORBANT; APATITE HYDROXYLEE; DENT; LIANT
ORGANIQUE;
GLYCINE (N-(HYDROXY-2 METHACRYLOYLOXY-3 PROPYL) N-PHENYL)
French Generic Descriptors: CHIMIE PHYSIQUE

Classification Codes: 170A16D

9/5/52 (Item 1 from file: 399)

DIALOG(R)File 399: CA SEARCH(R)

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140205194 CA: 140(13)205194x PATENT

Preparation for being fastened on a natural tooth part or tooth and corresponding fastening method

Inventor (Author): Mayer, Jorg; Aeschlimann, Marcel; Torriani, Laurent

Location: Switz.

Assignee: Woodwelding Ag

Patent: U.S. Pat. Appl. Publ. ; US 20040038178 A1 **Date:** 20040226

Application: US 417909 (20030417) *CH 20021460 (20020823)

Pages: 12 pp.

CODEN: USXXCO

Language: English

Patent Classifications:

Class: 433169000; A61C-013/28A; A61C-008/00B; A61C-005/08B

Section:

CA263007 Pharmaceuticals

Identifiers: tooth filling material polymer

Descriptors:

Polyketones ...

aryl derivs.; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Prosthetic materials and Prosthetics ...

ceramic, implants; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Dental materials and appliances ...

composites; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Dental materials and appliances ...

dentures; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Dental materials and appliances ...

fillings; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Polyolefins ...

halogenated; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Tooth... Sound and Ultrasound... Polyolefins... Acrylic polymers,biological studies...

Polyurethanes,biological studies... Polycarbonates,biological studies...

Polyamides,biological studies... Polyesters,biological studies ... Polysulfones,biological studies... Polyimides,biological studies... Liquid crystals,polymeric...

Polyoxymethylenes,biological studies... Polyethers,biological studies... Metals,biological studies... Polymers,biological studies ...

prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Ceramics ...

prosthetic implants; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Plastics,biological studies ...

thermoplastics; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

CAS Registry Numbers:

9016-75-5 prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

16/5/40 (Item 4 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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0015177302 **E.I. COMPENDEX No:** 2002377076232

Porous composites for adhering artificial cartilage to bone

Zhang, Kai; Grimm, Mary E.; Lu, Qiwei; Oegema Jr., Theodore R.; Francis, Lorraine F.
Corresp. Author/Affil: Grimm, M.E.: Dept. of Chem. Eng. and Mat. Sci., University of Minnesota, Minneapolis, MN 55455, United States

Conference Title: Advanced Biomaterials-Characterization, Tissue Engineering and Complexity

Conference Location: Boston, MA United States **Conference Date:** 20011126-20011129

E.I. Conference No.: 59453

Materials Research Society Symposium - Proceedings (Mater Res Soc Symp Proc) (United States) 2002 711/- (213-218)

Publication Date: 20020912

Publisher: Materials Research Society

CODEN: MRSPD **ISSN:** 0272-9172

Document Type: Conference Paper; Conference Proceeding **Record Type:** Abstract

Treatment: A; (Applications); X; (Experimental)

Language: English **Summary Language:** English

Number of References: 10

Artificial cartilage can be grown from cultured chondrocytes, but adhering this tissue to

bone presents a challenge. Porous polymer/bioactive glass composites are candidate materials for engineering the artificial cartilage/bone interface and possibly other soft-to-hard tissue (ligament/bone, tendon/bone) interfaces. A phase separation technique was used to make porous polymer/bioactive glass composites. The composites (thickness: 200-500 μm) have asymmetric structures with dense top layers and porous structures beneath. The porous structures consist of large pores ($>100 \mu\text{m}$) in a network of smaller ($<10 \mu\text{m}$) interconnected pores. The dense layers were removed and large pores exposed by abrasion or salt leaching from the casting surface. The tissue bonding abilities of the composites were studied in vitro in simulated body fluid (SBF) and in rabbit chondrocyte culture. Culture studies revealed that composite surfaces were suitable for attachment, spreading and proliferation of chondrocytes. The growth of hydroxycarbonate apatite (HCA) inside and on the composites after soaking in the SBF for two weeks demonstrates their potential for integration with bone. The results indicate the potential for the composites to facilitate growth and attachment of artificial cartilage to bone.

Descriptors: Biocompatibility; Biopolymers; Body fluids; Bone; Cartilage; Composite materials; Glass; Growth kinetics; Phase separation; Porous materials; Tissue culture; *Biomaterials

Identifiers: Artificial cartilage; Bioactive glass composites; Hydroxycarbonate apatite; In vitro in simulated body fluid; Porous composites; Rabbit chondrocyte culture

Classification Codes:

461.9.1 (Immunology)
815.1.1 (Organic Polymers)
461.2 (Biological Materials)
462.5 (Biomaterials)
801.2 (Biochemistry)
802.3 (Chemical Operations)

16/5/41 (Item 5 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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0015134952 E.I. COMPENDEX No: 2002297018208

Porous polymer/bioactive glass composites for soft-to-hard tissue interfaces

Zhang, Kai; Ma, Yue; Francis, Lorraine F.

Corresp. Author/Affil: Francis, L.F.: Department of Chemical Engineering, University of Minnesota, 421 Washington Avenue SE, Minneapolis, MN 55455, United States

Corresp. Author email: lfrancis@tc.umn.edu

Journal of Biomedical Materials Research (J. Biomed. Mater. Res.) (United States)
2002 61/4 (551-563)

Publication Date: 20020915

Publisher: John Wiley and Sons Inc.

CODEN: JBMRB **ISSN:** 0021-9304

Item Identifier (DOI): [10.1002/jbm.10227](https://doi.org/10.1002/jbm.10227)

Document Type: Article; Journal **Record Type:** Abstract

Treatment: T; (Theoretical)

Language: English **Summary Language:** English

Number of References: 61

Porous composites consisting of a polysulfone (or cellulose acetate) matrix and bioactive glass particles were prepared by phase separation techniques. Microstructures were designed for potential application as an interconnect between artificial cartilage and bone. The effects of polymer type, concentration and molecular weight, as well as bioactive glass size and content, on the microstructures of the composites were studied. The composites have asymmetric structures with dense top layers and porous structures beneath. The microstructural features depend most strongly on the type of polymer, the interaction between the polymer and bioactive glass, and the glass content. The dense top layer could be removed by abrasion to make a structure with large pores (20-150 μm) exposed. Composites were immersed in simulated body fluid at body temperature. The growth of hydroxycarbonate apatite inside and on the composites demonstrates their potential for integration with bone. Composite modulus and break strength increased with increasing glass content due to the change in composition and pore content. (c) 2002 Wiley Periodicals, Inc.

Descriptors: Body fluids; Bone; Cartilage; Composite materials; Composition; Glass; Interfaces (materials); Microstructure; Molecular weight; Phase separation; Polysulfones; Porous materials; *Biomaterials

Identifiers: Bioactive glass particles

Classification Codes:

815.1.1 (Organic Polymers)

931.3 (Atomic & Molecular Physics)

812.3 (Glass)

802.3 (Chemical Operations)

641.1 (Thermodynamics)

462.5 (Biomaterials)

461.2 (Biological Materials)

INVENTORS

? SHOW FILES

File 350:Derwent WPIX 1963-2010/UD=201039

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File 35:Dissertation Abs Online 1861-2010/May

(c) 2010 ProQuest Info&Learning

File 65:Inside Conferences 1993-2010/Jun 25

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? DS

Set	Items	Description
S1	1	PN=US 20070160958
S2	195	AU=(BELIKOV A? OR BELIKOV, A?)
S3	342	AU=(ALTSHULER G? OR ALTSHULER, G?)
S4	44	(S2 OR S3) AND (TOOTH OR TEETH)
S5	43	S4 NOT S1

? LOG OFF

Dialog eLink: [Order File History](#)

1/25/1 (Item 1 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0015721243

WPI Acc no: 2006-284472/200629

Related WPI Acc No: 2008-N48929

XRAM Acc no: C2006-092752

XRPX Acc No: N2006-242738

Tooth rejuvenation involves applying to tooth peroxide free composition of specific pH and comprising aqueous solution of edible acid and ions comprising elements e.g. calcium, phosphorous or fluoride in chelating agent

Patent Assignee: REJUVEDENT LLC (REJU-N); ALTSHULER G (ALTS-I);

BELIKOV A V (BELI-I)

Inventor: ALTSHULER G; BELIKOV A V; BELIKOV A

Patent Family (4 patents, 111 countries)

Patent Number	Kind	Date	Update	Type
WO 2006039278	A2	20060413	200629	B
AU 2005292285	A1	20060413	200707	E
US 20070160958	A1	20070712	200748	E
EP 1855609	A2	20071121	200780	E

Local Applications (no., kind, date): WO 2005US34606 A 20050929; AU 2005292285 A 20050929; US 2003514183 P 20031024; US 2005681630 P 20050517; US 2006596535 A 20060615; WO 2005US34606 A 20050929; EP 2005820890 A 20050929; WO

2005US34606 A 20050929

Priority Applications (no., kind, date): US 2003514183 P 20031024; US 2004614183 P 20040929; US 2005681630 P 20050517; US 2006596535 A 20060615

Alerting Abstract WO A2

NOVELTY - Tooth rejuvenation involves applying to a tooth a layer of a peroxide free composition (c1) comprising an aqueous solution of at least one edible acid and ions comprising the elements; optionally heating the composition to a temperature \wedge > 60(deg)C; and removing the composition from the tooth. The composition has a pH of 0.5 - 5.

DESCRIPTION - The elements are selected from calcium, chromium, barium, cadmium, magnesium, phosphorous, arsenic, silicon and/or fluorine in a chelating agent.

INDEPENDENT CLAIMS are included for the following:

1. a tooth rejuvenating composition (c1);
2. a tooth rejuvenating article of manufacture comprising a porous material and an aqueous solution of at least one edible acid;
3. a capsule comprising (c1);
4. an applicator for rejuvenating treatment involving impregnating a porous layer of the hard tissue with particles having a fluidity temperature lower than a melting temperature of the porous layer of a hard tissue, selectively heating the porous layer, and letting the material of the particles to solidify;
5. an apparatus for rejuvenating hard tissue or teeth;
6. a method of hard tissue modification or rejuvenation;
7. an apparatus for selective heating of a hard tissue surface.

USE - For rejuvenating hard tissue or teeth (claimed).

ADVANTAGE - The method/apparatus provides mechanical and chemical resistance of tooth substance and improves its esthetic appearance.

Dialog eLink: [Order File History](#)

5/25/3 (Item 3 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0018428591

WPI Acc no: 2008-N48929/200878

Related WPI Acc No: 2006-284472

XRPX Acc No: N2008-991852

Method for tooth rejuvenation and hard tissue modification, involves applying aqueous solution containing edible acids e.g. malic acid to hard tissue without requirement to protect soft tissue surrounding hard tissue

Patent Assignee: ALTSHULER G B (ALTS-I); BELIKOV A V (BELI-I); GRISHIN V V

(GRIS-I)

Inventor: **ALTSHULER G B; BELIKOV A V; GRISHIN V V**

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
US 20080280260	A1	20081113	200878	B

Local Applications (no., kind, date): US 2004614183 P 20040929; US 2005681630 P 20050517; US 2005702460 P 20050725; WO 2005US34606 A 20050929; US 2006596535 A 20060615; US 2006828294 P 20061005; US 2007868449 A 20071005
Priority Applications (no., kind, date): US 2004614183 P 20040929; US 2005681630 P 20050517; US 2005702460 P 20050725; WO 2005US34606 A 20050929; US 2006596535 A 20060615; US 2006828294 P 20061005; US 2007868449 A 20071005

Alerting Abstract US A1

NOVELTY - Method of re-growing hard tissue, involves applying an aqueous solution to the hard tissue without a requirement to protect soft tissue surrounding the hard tissue, and re-growing the hard tissue at rate higher than 0.01 mu m per minute.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. composition for composition for re-growing hard tissue of an enamel layer at a growth rate higher than 0.01 mu m per minute; and
2. apparatus for hard tissue re-growth.

USE - The method is useful for **tooth** rejuvenation and hard tissue modification (all claimed), for enhancing mechanical hardness, chemical and/or bacterial resistance, restoration and/or improvement of cosmetic appearance such as whitening, color alternation and other improvements of **tooth**.

Dialog eLink: [Order File History](#)

5/25/4 (Item 4 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0017880798 *Drawing available*

WPI Acc no: 2008-H01137/200844

XRAM Acc no: C2008-221579

XRPX Acc No: N2008-556221

Method for forming superficial microtextured layer on surface of material for, e.g. tooth surface hard tissue modification, involves forming spatial pattern of microbeams with or without spatial overlapping between microbeams

Patent Assignee: REJUVEDENT LLC (REJU-N)

Inventor: **ALTSHULER G B; BELIKOV A V**

Patent Family (4 patents, 120 countries)

Patent Number	Kind	Date	Update	Type
WO 2008067334	A2	20080605	200844	B
WO 2008067334	A3	20080717	200848	E
WO 2008067334	A9	20080828	200857	E
US 20100021867	A1	20100128	201009	E

Local Applications (no., kind, date): WO 2007US85676 A 20071127; US 2006867315 P 20061127; WO 2007US85676 A 20071127; US 2009488673 A 20090622

Priority Applications (no., kind, date): US 2006867315 P 20061127; WO 2007US85676 A 20071127; US 2009488673 A 20090622

Alerting Abstract WO A2

NOVELTY - The method involves generating optical radiation in between 100-20000 nm. The radiation is used to form microbeams. A spatial pattern of microbeams with or without spatial overlapping between microbeams is formed. The spatial pattern is delivered to surface of material. A texture in the form of spatial pattern is formed on the surface of material by ablating, evaporating, photoetching or modifying surface and superficial layer of material by microbeams. The material is selected from dental enamel, dentin, dental cementum, composite resin, porcelain and amalgam.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1. device for forming microtexture on surface of hard material;
2. method of hard tissue modification; and
3. method of modification of hard dental material.

USE - Method for forming superficial microtextured layer on surface of material for **tooth** surface hard tissue modification. Can also be used in treatment of other hard tissue such as nail tissue in human body and animal, orthopedic surgery, etc.

ADVANTAGE - The dental hard tissue can be prepared by laser micro ablation. The adhesion properties of different materials to hard tissue can be improved.

DESCRIPTION OF DRAWINGS - The drawing shows the schematic view of handpiece for micro perforation of hard tissue surface.

602 Laser

604 Optical system

605 Optical wedge

607 Mirror

Dialog eLink: [Order File History](#)

5/25/13 (Item 13 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0013822592 *Drawing available*

WPI Acc no: 2003-833599/200377

XRPX Acc No: N2003-666368

Hard material e.g. tooth tissue processing apparatus, has laser rod to emit radiation, that is directed by optical tip to material, where pressurized water and air cleans surface of object

Patent Assignee: ALTSHULER G (ALTS-I); ALTSHULER G B (ALTS-I); BELIKOV A V (BEL-I)

Inventor: **ALTSHULER G B; BELIKOV A V; BELIKOV A**

Patent Family (9 patents, 99 countries)

Patent Number	Kind	Date	Update	Type
WO 2003086218	A1	20031023	200377	B
US 20040030326	A1	20040212	200412	E
AU 2003226326	A1	20031027	200436	E
EP 1494605	A1	20050112	200504	E
US 7267672	B2	20070911	200761	E
US 20080003536	A1	20080103	200805	NCE
US 20080021441	A1	20080124	200810	E
EP 1494605	B1	20081015	200874	E
DE 60324125	E	20081127	200882	E

Local Applications (no., kind, date): WO 2003US10768 A 20030409; US 2002371097 P 20020409; US 2003410578 A 20030409; AU 2003226326 A 20030409; EP 2003746659 A 20030409; WO 2003US10768 A 20030409; US 2002371097 P 20020409; US 2003410578 A 20030409; US 2003410578 A 20030409; US 2007767496 A 20070623; US 2002371097 P 20020409; US 2003410578 A 20030409; US 2007767495 A 20070623 ; EP 2003746659 A 20030409; WO 2003US10768 A 20030409; DE 60324125 A 20030409; EP 2003746659 A 20030409; WO 2003US10768 A 20030409

Priority Applications (no., kind, date): US 2002371097 P 20020409; US 2003410578 A 20030409; US 2007767496 A 20070623; US 2007767495 A 20070623

Alerting Abstract WO A1

NOVELTY - The apparatus has a laser rod emitting radiation that is applied through an optical fiber (1) fixed in a handle (2). The radiation is applied to an optical reflector (3) and the reflected radiation is directed through an optical tip (5) to a material e.g. hard **tooth** tissue. Pressurized water and air are applied from tanks (19,20) through respective tubes (14,33), and couplings (15,32) to clean a surface of the material.

DESCRIPTION - An **INDEPENDENT CLAIM** is also included for a method for processing a hard material.

USE - Used for processing hard biological material e.g. dental enamel and bone, **tooth** tissue.

ADVANTAGE - The cleaning of a treatment zone of the hard material by pressurized water and air and keeping the irradiated surface of the material free of dirt ensures enhanced processing efficiency.

DESCRIPTION OF DRAWINGS - The drawing shows a partially cut-away illustration of a hard material processing apparatus.

1 Optical fiber

2 Handle

3 Optical reflector

4 Housing

5 Optical tip

19,20 Tanks

14,33 Couplings

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5/25/18 (Item 18 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0008851758 *Drawing available*

WPI Acc no: 1998-398753/199834

XRPX Acc No: N1998-310230

Treatment of tooth enamel and dentin - includes irradiation of tooth by laser pulse trains of 2 second length during energy of not less than 30 joules per square centimetre

Patent Assignee: ALTSHULER G B (ALTS-I); BELIKOV A V (BELI-I)

Inventor: **ALTSHULER G B; BELIKOV A V**

Patent Family (3 patents, 32 countries)				
Patent Number	Kind	Date	Update	Type
WO 1998030168	A2	19980716	199834	B
AU 199855010	A	19980803	199850	E
RU 2127137	C1	19990310	200023	E

Local Applications (no., kind, date): WO 1997RU404 A 19971211; AU 199855010 A 19971211; RU 1997100495 A 19970114

Priority Applications (no., kind, date): RU 1997100495 A 19970114

Alerting Abstract WO A2

The radiation from a laser (1) is directed along an optical fibre (4) of a radiation delivery device (3), while a tip (5) is intended for use by a doctor to direct the radiation onto a target **tooth** (7). During irradiation of the crown of a **tooth**, an attachment (6) is used. As the radiation passes out of the fibre, it is displaced by a light scattering head and is then reflected from the inner surface of a reflector.

Scattering is carried out at the focus of the reflector, set so that its second focus is inside the **tooth**. For irradiation of the side surface of the **tooth**, a different attachment is used. A power source and control unit (2), containing a power source, timer and a cooling system, is used to control the treatment process. The laser pulse density is 10-200 joules per square centimetre during 5 second pulse trains and pulse length of 100-300 milliseconds.

USE - Modification of **tooth** enamel and dentin.

ADVANTAGE - Increase of micro-hardness and acid resistance of **tooth**.

Dialog eLink: [Order File History](#)

5/25/19 (Item 19 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0008667012 *Drawing available*

WPI Acc no: 1998-205353/199818

XXPX Acc No: N1998-163112

Laser procedure for treating hard tissues of teeth - using pulsed light beam to determine type of tissue being treated

Patent Assignee: ALTSHULER G B (ALTS-I)

Inventor: ALTSHULER G B; EROFEEV A V

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
RU 2089127	C1	19970910	199818	B

Local Applications (no., kind, date): RU 199440344 A 19941102

Priority Applications (no., kind, date): RU 199440344 A 19941102

Alerting Abstract RU C1

The procedure consists of recording the intensity of a light pulse in the 350 - 500 Nm waveband reflected from the **tooth** to determine the type of tissue being treated. The pulse is used at the same time to measure the time delay between pulses as an aid to precise determination of tissue type.

The apparatus used for the procedure comprises a pulsed laser beam generator (1), a sapphire fibre feeder (3) and focusing system (4). It also incorporates a camera (5), a pulse amplitude meter (6) and an indicator (7).

ADVANTAGE - Reduced risk of causing trauma for patient when treating caries or forming prosthesis with air of laser equipment.